

CX120

Chassis User Guide

Viglen®

Great
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Think

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Viglen, EMC and the 'CE' mark

CE Marking

As we begin the 21st century, European standards are being harmonised across borders. If products comply with the same standards in all European countries, product exporting and importing is made simple - paving our way to a common market. If you buy a product with a 'CE' mark on it (shown below), on the box, in the manual, or on the guarantee - it complies with the currently enforced directive(s).



Introduction to EMC

EMC (Electromagnetic Compatibility) is the term used to describe certain issues with RF (Radio Frequency) energy. Electrical items should be designed so they do not interfere with each other through RF emissions. E.g. If you turn on your microwave, your television shouldn't display interference if both items are CE marked to the EMC directive.

If emitted RF energy is not kept low, it can interfere with other electrical circuitry - E.g. Cars Automatic Braking Systems have been known to activate by themselves while in a strong RF field. As this has obvious repercussions ALL electrical products likely to cause RF related problems have to be 'CE' marked from 1st January 1996 onwards.

If a product conforms to the EMC directive, not only should its RF emissions be very low, but its immunity to RF energy (and other types) should be high. The apparatus has to resist many 'real world' phenomena such as static shocks and mains voltage transients.

Viglen's Environment laboratory

To gain a 'CE' mark, the Viglen computer range has had to undergo many difficult tests to ensure it is Electromagnetically Compatible. These are carried out in the in-house 'Environment lab' at Viglen Headquarters. We have made every effort to guarantee that each computer leaving our factory complies fully with the correct standards. To ensure the computer system maintains compliance throughout its functional life, it is essential you follow these guidelines.

Install the system according to Viglen's instructions

If you open up your Viglen System:

- Keep internal cabling in place as supplied.
- Ensure the lid is tightly secured afterwards
- Do not remove drive bay shields unless installing a 'CE' marked peripheral in its place
- The clips or 'bumps' around the lips of the case increase conductivity - do not remove or damage.
- Do not remove any ferrite rings from the L.E.D cables.
- Only use your Viglen computer with 'CE' marked peripherals

This system has been tested in accordance with European standards for use in residential and light industrial areas-this specifies a 10 meter testing radius for emissions and immunity. If you do experience any adverse affects that you think might be related to your computer, try moving it at least 10 meters away from the affected item. If you still experience problems, contact Viglen's Technical Support department who will put you straight through to an EMC engineer - s/he will do everything possible to help. If modifications are made to your Viglen computer system, it might breach EMC regulations. Viglen take no responsibility (with regards to EMC characteristics) of equipment that has been tampered with or modified.

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Viglen CX120 Server System – Chassis User Guide Version 1.0

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Contents

1. CX120 Chassis Specification	4
Physical Specification	4
Chassis Features	4
Chassis Front Controls and Indicators	5
Chassis Back I/O Ports and Features	6
Chassis Feature Summary	7
Chassis Error and Message Indicators	7
2. CX120 Rackmount Kit Installation	8
Handle and Slide Rail Installation	8
Setting up the Rackmount Chassis	9
3. Chassis Power Supply Technical Data	12
4. Appendices	13
Appendix A: Glossary	13
Appendix B: Notes	18
Appendix C: Further help and Information	22
Appendix D: Suggestions	23

1. CX120 Chassis Specification

The CX120 chassis is designed to be either a pedestal unit or mounted in a 19" rack cabinet. If the server is bought as a Rackmount unit, then it will be supplied complete with a pair of industry standard 19" Rails, handles and all of the necessary nuts and bolts.

Physical Specifications

Specifications	
Height	449 mm
Width / Rackmount Height	220 mm / 5U
Depth	620 mm
Weight	22.3 kg typical configuration

Chassis Features

The galvanised metal chassis minimises EMI and radio frequency interference (RFI). The removable access cover is attached to the chassis with two thumbscrews and provides easy access to the VIG350S motherboard and power supply.

Chassis Front Controls and Indicators

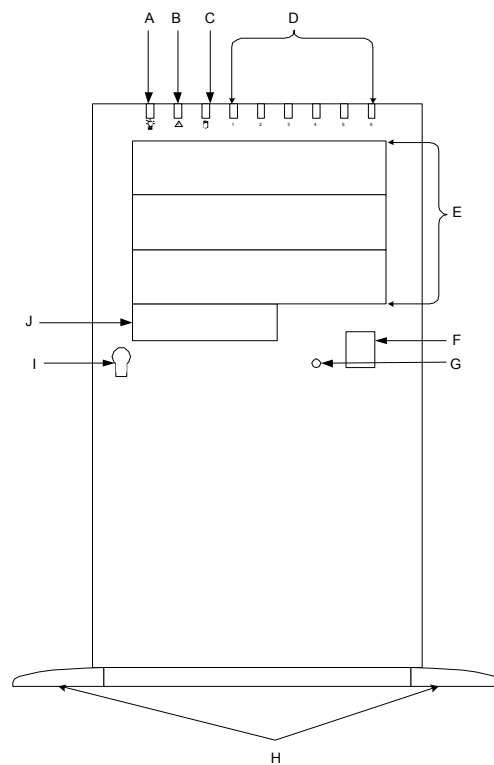


Figure 1: Chassis Front Controls and Indicators

A	Power LED	F	Power Button
B	Error LED (Temperature & Fans)	G	Reset Button
C	Local HD Access LED	H	Chassis Feet
D	Hard Disk Access LED	I	Door Lock
E	5.25-inch Bays	J	3.5" Bay

Chassis Back I/O Ports and Features

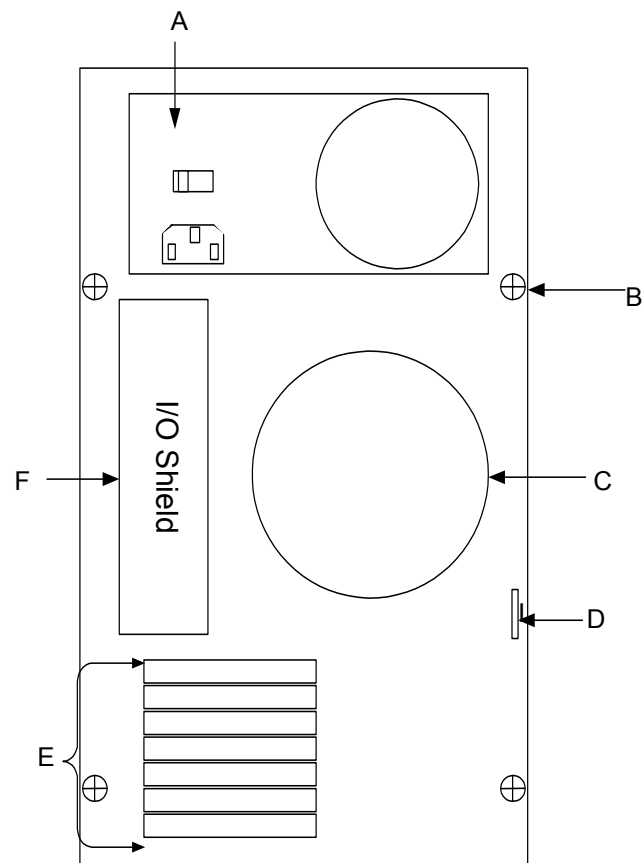


Figure 2: Chassis Back I/O Ports and Features

A	450W ATX Power Supply	D	Padlock Plate
B	Thumb Screw	E	Expansion Slot Blanking Plates
C	12 cm fan for system cooling	F	I/O Shield

Chassis Feature Summary

Feature	Description
Drive Bays	One 3.5-inch diskette drive bay, accessible from front. Three 5.25-inch-wide bays that are externally accessible, designed to hold half-height standard removable media devices; the bays can be converted into a single full-height bay.
Baseboard	Viglen VIG350S Server Motherboard.
Power supply	450W ATX power supply, with integrated cooling fan.
Expansion slot covers	Six fully functional expansions slots can be used: every slot opening that does not have an add-In board Installed must have a slot cover installed.
System cooling Fan	One 12 cm ball bearing cooling fan for system cooling. Two-8cm ball bearing cooling fans for the Hard drives.
Chassis Intrusion Switch	The chassis provides a micro toggle switch; It is a two-wire switch that is connected to the VIG350S motherboard for chassis intrusion detection.

Chassis Error and Message Indicators

The Chassis Intrusion and Fans will be connected to the VIG350S motherboard and can be monitored via LAN Desk Client manager (LDCM). LDCM will give Error and Alert messages for any problem the Server encounters.

2. CX120 Rackmount Kit Installation

Handle and Slide Rail Installation

Using the two countersunk head #4*8 screws, install the handle to each mounting ear



Figure 3: Installing Handle to Mounting Ears

Release the slide rail by pushing the plastic latch and pull it out.



Figure 4: Removing the Slide Rail

Place the chassis horizontally



Figure 5: Horizontal Chassis

Setting up the Rackmount Chassis

Remove the plastic top by removing the cover screw.



Figure 6: Removing the Plastic Top Cover

Press the two tabs of the chassis stand and take it off.

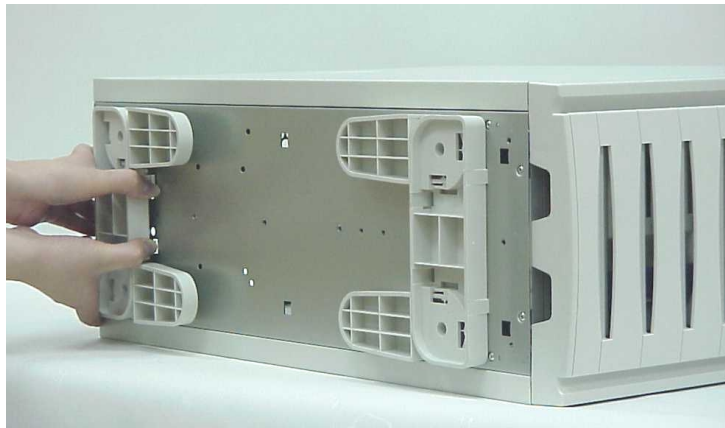


Figure 7: Removing the Chassis Feet

Using four round head #4*6 screws install the handle modules to both sides of the rack mounted chassis.

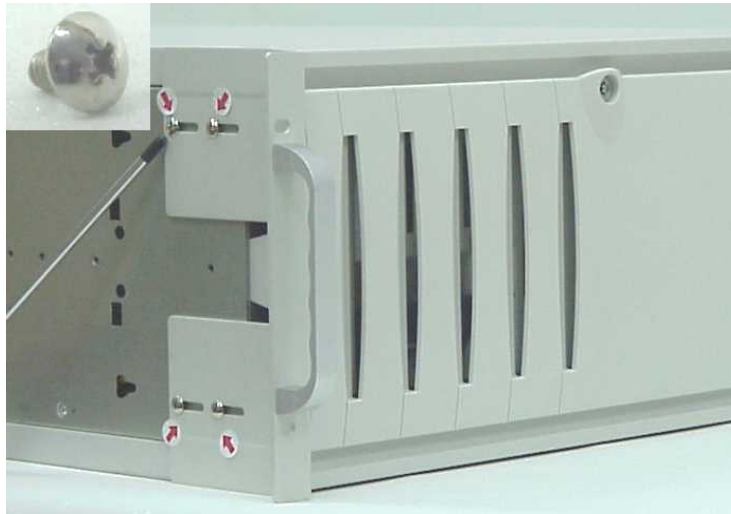


Figure 8: Installing the Handle Modules

Using the five round head #4*6 screws fix the internal rail slider to both sides of the chassis.

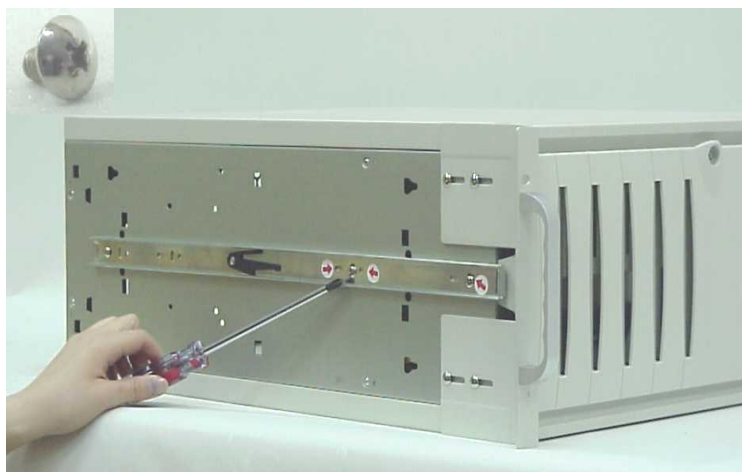


Figure 9: Attaching the Internal Rail Slider

Using the round head #4*6 screws fix the mounting rail to the Rack.



Figure 10: Fixing the Mounting Rail to the Rack.

3. Chassis Power Supply Technical Data

	Delta 450W
Input Voltage Range	90~140Vrms or 180~264Vrms
Frequency Range	47Hz~63Hz
Max. input AC Current	8.5A Max @ 110Vac/60Hz 4A Max @ 220Vac/50Hz
+3.3V (MAX Load)	24A
+5V (Max Load)	20A
+12V V1 (MAX Load)	15A
+12V V2 (MAX Load)	15A
-12V (MAX Load)	0.5A
-5V (MAX Load)	
+5Vsb (MAX Load)	2.0A
Caution	+5V and 3.3V total output

4. Appendices

Appendix A: Glossary

A	Ampere, This is a term of measurement for electric current.
AC	Alternating Current used to describe the mains voltage.
Ampere	This is a term of measurement of electric current.
Analog	Pertaining to data in the form of continuously variable quantities. Contrasts with Digital.
ANSI	American National Standards Institute.
ASCII	American Standard Coded for Information Interchange. This is a special 7/8 bit code that is given to identify characters.
Asynchronous	A method of transmission of data in which the bits included in a character or block of characters occur during a specific time interval. The start of each character block can occur at any time during this interval. Contrasts with synchronous.
AUTOEXEC.BAT	A special batch file, which contains a series of commands that are to be executed when the computer is started up.
BASIC	Beginner's All-purpose Symbolic Instruction Code. This is a simple programming language.
Battery-Backed RAM	A type of memory that holds information even when the computer is switched off.
Baud	A term used to measure modem data rates.
Binary	Involving a choice of two conditions, such as "yes" or "no", "1" or "0", base-2 mathematics.
BIOS	Basic Input Output System. This is the program held in the computer's ROM which handles all the input and output functions.
Bit	Synonym for Binary digit. A single unit of information which can hold a value of 0 or 1.

Boot	The name given to the program that runs on the computer when it is first switched on. Can also be a verb related to running the program.
BSI	British Standards Institute.
Bps	Bits per second.
Buffer	An area of temporary storage.
Bus	One or more conductors used for transmitting signals.
Byte	A unit of data made up of eight Bits.
C / C++	A programming language.
Cache	A small area of high-speed memory.
Cathode Ray Tube (CRT)	Normally referred to as a monitor or VDU.
Character	A symbol on the screen or same as a Byte.
CMOS	Complementary Metal Oxide Semiconductor. A logic circuit family that uses very little power.
COM1, COM2 COM3, COM4	The names given to the serial communications ports in DOS.
CONFIG.SYS	A special purpose file which has the configuration details for the computer to set itself to when powered up.
CPS	Characters per second.
CSA	Canadian Standards Association.
Cursor	A bar on the screen that indicates where the input from the keyboard will be displayed.
DC	Direct current. Normally associated with battery current.
Digital	Pertaining to data in the form of binary digits. Contrasts with Analogue.
DIP	Dual In-Line Package. ICs that have two parallel rows of connections.

DMA	Direct Memory Access. A method of transferring data between main storage and I/O devices without processor intervention.
Disk	See Floppy Disk.
DOS or MS-DOS®	Disk Operating System or Microsoft® Disk Operating System. This is a low-level program that instructs the computer on basic file handling.#
DRAM	Dynamic RAM. A type of RAM that requires a periodic refresh to maintain data.
DVD	Digital Versatile Disk
EMC	ElectroMagnetic Compatibility
EMI	ElectroMagnetic Interference.
EPROM	Erasable Programmable Read-Only Memory.
ESDI	Enhanced Small Device Interface, which specifies a fast hard disk interface.
FCC	Federal Communications Commission.
Firmware	A program that is resident in Read Only Memory (ROM).
Floppy Disk	A storage device consisting of a flexible magnetic disk inside a protective cover.
G	A symbol used to represent the prefix Giga. i.e. GB (Giga Byte).
GB	Gigabyte, represents 1,073,741,824 bytes (1024MB).
Hard Disk	A disk of rigid magnetic material used for mass storage.
Hardware	The physical equipment which makes up the computer system.
Hertz (Hz)	A unit of measurement of frequency amounting to one cycle per second.
Hex	Hexadecimal. Base-16 mathematics.
IC	Integrated Circuit.
Icon	A graphical symbol.

IDE	Integrated device interface. An AT bus specification for a fast hard disk.
IEC	International Electrotechnical Commission. Specifies standards of safety.
I/O	Input/Output. Refers to data being sent to or received from a computer.
K	Symbol used to represent Kilobyte which is 1024 bytes.
KB	Abbreviation for Kilobyte, i.e. 1024 bytes.
Kb	Abbreviation for Kilo bit, i.e. 1024 bits.
Keylock	A locking device which can deactivate a keyboard.
KHz	KiloHertz. 1000 Hertz.
LIM	Lotus/Intel/ Microsoft® Expanded Memory Manager specification.
LED	Light Emitting Diode. These are normally used as the lights on a computers front panel.
LPT1, LPT2, LPT3	Names given to the printer ports by DOS.
M	Prefix mega. Equivalent to 1024K.
mA	Milliampere. 0.001 Ampere.
MB	Abbreviation for Mega Byte i.e. 1024K Bytes.
Mb	Abbreviation for Mega Bits, i.e. 1024K bits.
Memory	An electronic component which remembers data stored in it.
MHz	Mega Hertz. 1,000,000 Hertz.
ns	Nano Second 0.000 000 001 second.
Pixel	The smallest displayable unit on a monitor or picture tube.
POST	Power-On Self Test.
RAM	Random Access Memory. Fast Read/Write memory.

RFI	Radio Frequency Interface.
ROM	Read Only Memory.
RS-232C	A standard for asynchronous serial communication.
SCSI	Small Computer Systems Interface. A multimedia bus and interface specification for fast Hard Disks, Tape Backup Units, CD ROMs and other Devices.
SIMM	Single In-Line Memory Module.
Software	Another name for a computer program.
SRAM	Static RAM. Synchronous Transmission of data between devices which are maintaining the same frequency relationship. Contrasts with asynchronous.
TPI	Tracks Per Inch.
TTL	Transistor Transistor Logic.
TUV	Technischer Überwachungs-Verein. Organisation which tests and certifies electronic equipment.
UL	Underwriter Laboratories. American Organisation specifying standards for safety of electronic equipment.
USB	Universal Serial Bus
V	Volt. Unit of measurement of potential difference.
VAC	Volts (Alternating Current).
VDE	Verband Deutscher Electrotechniker. German organisation specifying EMI suppression.
Video	Computer data or graphics displayed on a monitor or screen.
W	Watt.
Watt	Basic unit of measurement of electrical power.
Word	A number of bits or bytes making up an entity used in the transfer and calculation of data in the computer architecture. Word=16 bits (2 bytes), long word= 32bits (4 bytes).

Appendix B: Notes

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Appendix C: Further help and Information

Viglen Technical Support	Tel: 020 8758 7050 Fax: 020 8758 7097 E-mail: technical@viglen.co.uk
Viglen's Internet Website	http://www.viglen.co.uk
The Viglen BBS service	020 8758 7095
Viglen Service Centre	Tel: 020 8991 3582 Fax: 020 8758 7085, E-mail: service@viglen.co.uk

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Appendix D: Suggestions

Viglen is interested in continuing to improve the quality and information provided in their manuals. Viglen has listed some questions that you may like to answer and return to Viglen. This will help Viglen help to keep and improve the standard of their manuals.

1. Is the information provided in this and other manuals clear enough?

2. What could be added to the manual to improve it?

3. Does the manual go into enough detail?

4. Would you like an on-line version of this manual?

5. How do you rate the Viglen Technical support and Service Departments?

6. Are there any technological improvements that could be made to the system?

1. Other points you would like to mention?

Please return this slip to: Product Development Department
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Alperton Lane
Alperton
Middlesex
HA0 1DX